WHAT IS CLAIMED IS:

1.   A communication method in a multicast communication network for distributing a multicast packet from a multicast transmitting terminal (source) through at least a Layer-2 switch to a plurality of multicast receiving terminals (receivers), comprising

forming a receiving terminal discrimination mechanism for discriminating multicast receiving terminals for receiving distribution of said multicast packets and

distributing multicast packets selectively by said receiving terminal discrimination mechanism only to multicast receiving terminals requesting distribution of said multicast packets when there are multicast receiving terminals relating to such requests under said L2 switches.

2.   A multicast receiving terminal (receiver) for receiving distribution of multicast packets from a multicast transmitting terminal through at least a Layer-2 switch, provided with a discrimination packet transmitting function unit for generating a discrimination packet for teaching said Layer-2 switch of the existence of a multicast receiving terminal requesting distribution of said multicast packets under it and transmitting it to said Layer-2 switch side.

3.   A multicast receiving terminal (receiver) as set forth in claim 2, wherein said discrimination packet includes an IP header and MAC header and wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal belongs.

4.   A multicast receiving terminal (receiver) as set forth in claim 2, transmitting said discrimination packet periodically by unicast.

5.   A multicast receiving terminal (receiver) as set forth in claim 2, transmitting said discrimination packet when sending an IGMP-JOIN packet.

6.   A Layer-2 switch for relaying a multicast packet transmitted from a multicast transmitting terminal (source) and distributing it to a multicast receiving terminal (receiver), provided with:

a snooping function unit for monitoring for a discrimination packet transmitted from said multicast receiving terminal so as to teach said Layer-2 switch that there is a multicast receiving terminal requesting distribution of said multicast packets existing under it and

a learning function unit for learning the existence of said multicast receiving terminal based on said discrimination packet extracted by said snooping function unit.

7.   A Layer-2 switch as set forth in claim 6, wherein said discrimination packet includes an IP header and MAC header and wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal (receiver) belongs.

8.   A Layer-2 switch as set forth in claim 7, wherein said learning function unit includes a distribution table, said distribution table learns said IP source address and MAC source address, then multicast packets transmitted from said multicast transmitting terminal (source) are distributed in accordance with said distribution table.

9.   A Layer-3 switch for further relaying multicast packets transmitted from a multicast transmitting terminal (source) through at least a Layer-2 switch and distributing it to a multicast receiving terminal and for transmitting a discrimination packet teaching said Layer-2 switch that there is a multicast receiving terminal (receiver) requesting distribution of said multicast packets existing under it to said Layer-2 switch side, provided with:

a decision function unit for deciding if a

received packet is a discrimination packet or a general packet other than a discrimination packet and

a header processing function unit for processing an MAC header of said received packet and performing different processing in accordance with results of decision of said decision function unit.

10. A Layer-3 switch as set forth in claim 9, wherein said discrimination packet includes an IP header and MAC header and wherein the IP source address and MAC source address are an IP address and MAC address of a multicast group to which said multicast receiving terminal (receiver) belongs.

11. A Layer-3 switch as set forth in claim 9, wherein said header processing function unit does not process the source address of said MAC header when said decision function unit decides that said received packet is a discrimination packet and performs general rewriting processing on said MAC header when it decides that said received packet is a general packet.

12. A Layer-3 switch as set forth in claim 10, wherein said decision function unit decides if said received packet is a discrimination packet or a general packet in accordance with whether said IP header and MAC header of a received packet are a multicast type address or unicast type address.